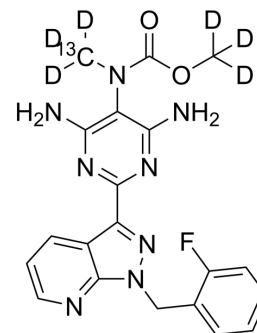


## Riociguat-<sup>13</sup>C,<sub>6</sub>D<sub>6</sub>

Cat. No.:	HY-14779S		
Molecular Formula:	C <sub>19</sub> <sup>13</sup> CH <sub>13</sub> D <sub>6</sub> FN <sub>8</sub> O <sub>2</sub>		
Molecular Weight:	429.45		
Target:	Isotope-Labeled Compounds		
Pathway:	Others		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### BIOLOGICAL ACTIVITY

<b>Description</b>	Riociguat- <sup>13</sup> C, <sub>6</sub> D <sub>6</sub> is the <sup>13</sup> C and deuterium labeled Riociguat (HY-14779). Riociguat is an oral stimulator of soluble guanylate cyclase (sGC) used in the treatment of pulmonary hypertension.
<b>IC<sub>50</sub> &amp; Target</b>	sGC <sup>[2]</sup>
<b>In Vitro</b>	<p>Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs<sup>[1]</sup>.</p> <p>Riociguat stimulates the recombinant sGC concentration dependently from 0.1 to 100 μM with a two-fold to 73-fold effect by an NO-independent but haem-dependent mechanism<sup>[1]</sup>. Riociguat inhibits platelet function in washed platelets but not in whole blood, and exerts no direct effects on contractility and relaxation of cardiac myocytes<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
<b>In Vivo</b>	<p>Riociguat (10 mg/kg/d, p.o.) partially reverses the pulmonary arterial hypertension, the right heart hypertrophy and the structural remodelling of the lung vasculature in chronic treatment of hypoxic mice and MCT-injected rats<sup>[3]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

### REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019 Feb;53(2):211-223.
- [2]. Schermuly RT, et al. Expression and function of soluble guanylate cyclase in pulmonary arterial hypertension. *Eur Respir J.* 2008 Oct;32(4):881-91.
- [3]. Schermuly RT, et al. Riociguat for the treatment of pulmonary hypertension. *Expert Opin Investig Drugs.* 2011 Apr;20(4):567-76.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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